CRF Errors Corrected by the STIC Systems Branch

Serial Number: 09/847,081B

CRF Processing Dat: 3-29-02

Edited by: M. SPENCER

Verified by: _____ (STIC staff)

2800 3329 #9

☐ Changed a file from non-ASCII to ASCII

☐ Changed the margins in cases where the sequence text was "wrapped" down to the next line.

☐ Edited a format error in the Current Application Data section, specifically: ENTERED

_____

☐ Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other _____.

☐ Added the mandatory heading and subheadings for "Current Application Data".

☐ Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.

☐ Changed the spelling of a mandatory field (the headings or subheadings), specifically:

_____

☐ Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were:

_____

☐ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

_____

☐ Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.

☐ Inserted colons after headings/subheadings. Headings edited included:

_____

☐ Deleted extra, invalid, headings used by an applicant, specifically:

_____

☑ Deleted: ☑ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file; ☐ page numbers throughout text; ☐ other invalid text, such as _____.

☐ Inserted mandatory headings, specifically: _____

☐ Corrected an obvious error in the response, specifically:

_____

☐ Edited identifiers where upper case is used but lower case is required, or vice versa.

☐ Corrected an error in the Number of Sequences field, specifically:

_____

☐ A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.

☐ Deleted *ending* stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: _____

☐ Other:

_____

_____

_____

_____

*Examiner: Th above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.

3/1/95

OIPE

RAW SEQUENCE LISTING DATE: 03/29/2002
PATENT APPLICATION: US/09/847,081B TIME: 10:28:49

Input Set : A:\pto_ms.txt
Output Set: N:\CRF3\03292002\I847081B.raw

```
 3 <110> APPLICANT: BAYER AG
 5 <120> TITLE OF INVENTION: DNA encoding the tobacco phytoene synthase
 7 <130> FILE REFERENCE: Le A 34 326
C--> 9 <140> CURRENT APPLICATION NUMBER: US/09/847,081B
10 <141> CURRENT FILING DATE: 2001-05-02
12 <160> NUMBER OF SEQ ID NOS: 10
14 <170> SOFTWARE: PatentIn Ver. 2.1
16 <210> SEQ ID NO: 1
17 <211> LENGTH: 1728
18 <212> TYPE: DNA
19 <213> ORGANISM: Nicotiana tabacum
21 <220> FEATURE:
22 <221> NAME/KEY: CDS
23 <222> LOCATION: (244)..(1566)
25 <400> SEQUENCE: 1
26 agaaacccag aaagaacaac aggttttgct tcttgttgat gagtgcattt gcctctgctt 60
28 gtgtaaggca aagtcggttc actttcttat atccgatttt tataatcgtt gaaattagtg 120
30 gatagactct agtggatatc tacaagtatt ggttttttga taaaataggc tgaggtgaga 180
32 aggtaacata aaggaaagac aaaaacttgg gaattgtttt agaccaccga ggtttcttgt 240
34 ttc atg agc atg tct gtt gct ttg ttg tgg gtt gtt tct ccc act tcc   288
35     Met Ser Met Ser Val Ala Leu Leu Trp Val Val Ser Pro Thr Ser
36       1               5                  10                  15
38 gag gtc tcg aat ggg aca gga ttg ttg gat tca gtc cga gaa gga aac   336
39 Glu Val Ser Asn Gly Thr Gly Leu Leu Asp Ser Val Arg Glu Gly Asn
40                  20                  25                  30
42 cgc gtc ttt gta tca tcc agg ttc cta gct cga gat agg aat ttg atg   384
43 Arg Val Phe Val Ser Ser Arg Phe Leu Ala Arg Asp Arg Asn Leu Met
44              35                  40                  45
46 tgg aat ggg aga atc aag aaa ggt ggg aga caa agg tgg aat ttt ggc   432
47 Trp Asn Gly Arg Ile Lys Lys Gly Gly Arg Gln Arg Trp Asn Phe Gly
48          50                  55                  60
50 tct tta att gct gat cca aga tat tca tgc ttg ggt gga tca aga act   480
51 Ser Leu Ile Ala Asp Pro Arg Tyr Ser Cys Leu Gly Gly Ser Arg Thr
52      65                  70                  75
54 gaa aag gga agc act ttc tct gta cag tcc agt ttg gtg gct agc cca   528
55 Glu Lys Gly Ser Thr Phe Ser Val Gln Ser Ser Leu Val Ala Ser Pro
56  80                  85                  90                  95
58 gct gga gaa atg act gtg tca tca gag aaa aag gtg tat gat gtg gta   576
59 Ala Gly Glu Met Thr Val Ser Ser Glu Lys Lys Val Tyr Asp Val Val
60                  100                 105                 110
62 tta aag cag gca gct tta gtg aag agg cag ctg aga tct acc gat gat   624
63 Leu Lys Gln Ala Ala Leu Val Lys Arg Gln Leu Arg Ser Thr Asp Asp
64              115                 120                 125
```

RAW SEQUENCE LISTING DATE: 03/29/2002
PATENT APPLICATION: US/09/847,081B TIME: 10:28:49

Input Set : A:\pto_ms.txt
Output Set: N:\CRF3\03292002\I847081B.raw

```
66 tta gaa gtg aag ccg gat att gtt gtt cca ggg aat ttg ggc ttg ttg   672
67 Leu Glu Val Lys Pro Asp Ile Val Val Pro Gly Asn Leu Gly Leu Leu
68         130                 135                 140
70 agt gaa gca tat gat cgt tgt ggc gaa gta tgt gca gag tat gca aag   720
71 Ser Glu Ala Tyr Asp Arg Cys Gly Glu Val Cys Ala Glu Tyr Ala Lys
72     145                 150                 155
74 aca ttt tac tta gga acc aag cta atg acc cca gag aga aga aga gct   768
75 Thr Phe Tyr Leu Gly Thr Lys Leu Met Thr Pro Glu Arg Arg Arg Ala
76 160                 165                 170                 175
78 atc tgg gca ata tat gtg tgg tgc agg aga acg gat gag ctt gtt gat   816
79 Ile Trp Ala Ile Tyr Val Trp Cys Arg Arg Thr Asp Glu Leu Val Asp
80                 180                 185                 190
82 ggc cct aat gca tcc cac ata act ccg caa gct tta gat agg tgg gag   864
83 Gly Pro Asn Ala Ser His Ile Thr Pro Gln Ala Leu Asp Arg Trp Glu
84             195                 200                 205
86 acc agg ctg gaa gat att ttc agt ggg cgg cca ttt gat atg ctt gat   912
87 Thr Arg Leu Glu Asp Ile Phe Ser Gly Arg Pro Phe Asp Met Leu Asp
88         210                 215                 220
90 gct gct tta tcc gat act gtc tcc aga ttt cct gtt gat att cag cca   960
91 Ala Ala Leu Ser Asp Thr Val Ser Arg Phe Pro Val Asp Ile Gln Pro
92     225                 230                 235
94 ttc aga gat atg att gaa gga atg cgt atg gac ttg tgg aaa tcc aga   1008
95 Phe Arg Asp Met Ile Glu Gly Met Arg Met Asp Leu Trp Lys Ser Arg
96 240                 245                 250                 255
98 tac aaa act ttc gat gag cta tat ctc tat tgt tac tat gtt gct ggt   1056
99 Tyr Lys Thr Phe Asp Glu Leu Tyr Leu Tyr Cys Tyr Tyr Val Ala Gly
100                 260                 265                 270
102 act gta gga ttg atg agt gtt cca gtt atg ggt att gca cct gaa tca   1104
103 Thr Val Gly Leu Met Ser Val Pro Val Met Gly Ile Ala Pro Glu Ser
104             275                 280                 285
106 aag gca aca aca gag agt gta tat aat gct gct ttg gct tta ggg ctt   1152
107 Lys Ala Thr Thr Glu Ser Val Tyr Asn Ala Ala Leu Ala Leu Gly Leu
108         290                 295                 300
110 gca aat caa cta acc aat ata ctc aga gat gta gga gaa gat gcc aga   1200
111 Ala Asn Gln Leu Thr Asn Ile Leu Arg Asp Val Gly Glu Asp Ala Arg
112     305                 310                 315
114 aga gga aga gta tac ttg cct caa gat gaa tta gca cag gca ggg ctc   1248
115 Arg Gly Arg Val Tyr Leu Pro Gln Asp Glu Leu Ala Gln Ala Gly Leu
116 320                 325                 330                 335
118 tcc gac gaa gac ata ttt gct gga aga gtg act gat aag tgg agg aac   1296
119 Ser Asp Glu Asp Ile Phe Ala Gly Arg Val Thr Asp Lys Trp Arg Asn
120                 340                 345                 350
122 ttt atg aag aaa caa att cag agg gcg agg aaa ttc ttt gat gag tca   1344
123 Phe Met Lys Lys Gln Ile Gln Arg Ala Arg Lys Phe Phe Asp Glu Ser
124             355                 360                 365
126 gag aaa ggt gtc aca gaa ctg gac tct gct agt aga tgg cct gtg tta   1392
127 Glu Lys Gly Val Thr Glu Leu Asp Ser Ala Ser Arg Trp Pro Val Leu
128         370                 375                 380
130 aca gcg ctg ctg ttg tat cgc aag ata ttg gac gag att gaa gcc aac   1440
```

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PATENT APPLICATION: US/09/847,081B TIME: 10:28:49

Input Set : A:\pto_ms.txt
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```
131 Thr Ala Leu Leu Leu Tyr Arg Lys Ile Leu Asp Glu Ile Glu Ala Asn
132     385                 390                 395
134 gac tac aac aac ttc aca agg agg gct tat gtt agc aag cca aag aag   1488
135 Asp Tyr Asn Asn Phe Thr Arg Arg Ala Tyr Val Ser Lys Pro Lys Lys
136 400                 405                 410                 415
138 ctt ctc acc ttg ccc att gct tat gca aaa tct ctt gtg ccc cct aat   1536
139 Leu Leu Thr Leu Pro Ile Ala Tyr Ala Lys Ser Leu Val Pro Pro Asn
140                 420                 425                 430
142 aga act tcc tct cca cta gca aag aca tga atgaagtagt tgagtcaatg     1586
143 Arg Thr Ser Ser Pro Leu Ala Lys Thr
144             435                 440
146 agtattatac actaaagaaa ctcaggtact tgtaaatgag atatcttttg ctaaatgtgt 1646
148 atcatcaaaa gtagattgta aattcaatat gacaatctct tggtagaata ttttctccac 1706
150 actcatcaaa ccctcaagtg ag                                         1728
153 <210> SEQ ID NO: 2
154 <211> LENGTH: 440
155 <212> TYPE: PRT
156 <213> ORGANISM: Nicotiana tabacum
158 <400> SEQUENCE: 2
159 Met Ser Met Ser Val Ala Leu Leu Trp Val Val Ser Pro Thr Ser Glu
160   1               5                  10                  15
162 Val Ser Asn Gly Thr Gly Leu Leu Asp Ser Val Arg Glu Gly Asn Arg
163              20                  25                  30
165 Val Phe Val Ser Ser Arg Phe Leu Ala Arg Asp Arg Asn Leu Met Trp
166          35                  40                  45
168 Asn Gly Arg Ile Lys Lys Gly Gly Arg Gln Arg Trp Asn Phe Gly Ser
169      50                  55                  60
171 Leu Ile Ala Asp Pro Arg Tyr Ser Cys Leu Gly Gly Ser Arg Thr Glu
172  65                  70                  75                  80
174 Lys Gly Ser Thr Phe Ser Val Gln Ser Ser Leu Val Ala Ser Pro Ala
175                  85                  90                  95
177 Gly Glu Met Thr Val Ser Ser Glu Lys Lys Val Tyr Asp Val Val Leu
178             100                 105                 110
180 Lys Gln Ala Ala Leu Val Lys Arg Gln Leu Arg Ser Thr Asp Asp Leu
181         115                 120                 125
183 Glu Val Lys Pro Asp Ile Val Val Pro Gly Asn Leu Gly Leu Leu Ser
184     130                 135                 140
186 Glu Ala Tyr Asp Arg Cys Gly Glu Val Cys Ala Glu Tyr Ala Lys Thr
187 145                 150                 155                 160
189 Phe Tyr Leu Gly Thr Lys Leu Met Thr Pro Glu Arg Arg Arg Ala Ile
190                 165                 170                 175
192 Trp Ala Ile Tyr Val Trp Cys Arg Arg Thr Asp Glu Leu Val Asp Gly
193             180                 185                 190
195 Pro Asn Ala Ser His Ile Thr Pro Gln Ala Leu Asp Arg Trp Glu Thr
196         195                 200                 205
198 Arg Leu Glu Asp Ile Phe Ser Gly Arg Pro Phe Asp Met Leu Asp Ala
199     210                 215                 220
201 Ala Leu Ser Asp Thr Val Ser Arg Phe Pro Val Asp Ile Gln Pro Phe
202 225                 230                 235                 240
```

RAW SEQUENCE LISTING DATE: 03/29/2002
PATENT APPLICATION: US/09/847,081B TIME: 10:28:49

Input Set : A:\pto_ms.txt
Output Set: N:\CRF3\03292002\I847081B.raw

```
204 Arg Asp Met Ile Glu Gly Met Arg Met Asp Leu Trp Lys Ser Arg Tyr
205                 245                 250                 255
207 Lys Thr Phe Asp Glu Leu Tyr Leu Tyr Cys Tyr Tyr Val Ala Gly Thr
208             260                 265                 270
210 Val Gly Leu Met Ser Val Pro Val Met Gly Ile Ala Pro Glu Ser Lys
211         275                 280                 285
213 Ala Thr Thr Glu Ser Val Tyr Asn Ala Ala Leu Ala Leu Gly Leu Ala
214     290                 295                 300
216 Asn Gln Leu Thr Asn Ile Leu Arg Asp Val Gly Glu Asp Ala Arg Arg
217 305                 310                 315                 320
219 Gly Arg Val Tyr Leu Pro Gln Asp Glu Leu Ala Gln Ala Gly Leu Ser
220                 325                 330                 335
222 Asp Glu Asp Ile Phe Ala Gly Arg Val Thr Asp Lys Trp Arg Asn Phe
223             340                 345                 350
225 Met Lys Lys Gln Ile Gln Arg Ala Arg Lys Phe Phe Asp Glu Ser Glu
226         355                 360                 365
228 Lys Gly Val Thr Glu Leu Asp Ser Ala Ser Arg Trp Pro Val Leu Thr
229     370                 375                 380
231 Ala Leu Leu Leu Tyr Arg Lys Ile Leu Asp Glu Ile Glu Ala Asn Asp
232 385                 390                 395                 400
234 Tyr Asn Asn Phe Thr Arg Arg Ala Tyr Val Ser Lys Pro Lys Lys Leu
235                 405                 410                 415
237 Leu Thr Leu Pro Ile Ala Tyr Ala Lys Ser Leu Val Pro Pro Asn Arg
238             420                 425                 430
240 Thr Ser Ser Pro Leu Ala Lys Thr
241         435                 440
245 <210> SEQ ID NO: 3
246 <211> LENGTH: 1712
247 <212> TYPE: DNA
248 <213> ORGANISM: Nicotiana tabacum
250 <220> FEATURE:
251 <221> NAME/KEY: CDS
252 <222> LOCATION: (333)..(1565)
W--> 253 <220> FEATURE:
254 <221> NAME/KEY: unsure
255 <222> LOCATION: 135, 139
256 <223> OTHER INFORMATION: Xaa is unknown or other
W--> 257 <220> FEATURE:
258 <221> NAME/KEY: unsure
259 <222> LOCATION: 51
260 <223> OTHER INFORMATION: n can be any nucleotide
262 <400> SEQUENCE: 3
W--> 263 cttgaagagt agcagcagca agcaagahaa ttaaagtggg ctatttbkka naagccattg 60
265 ttacmagara attaagaagc caagamacag gttattttct acttgagtya ggaaaagttg 120
267 gtttgcttta tttgtgggct ttttataatc ttttttccac aagggaaagt gggtattttc 180
269 ttgaaagtgg atttagactc tagtgggaat ctactaggag taaatttatt aatttttat 240
271 aaattaagca gaggaaggaa ggaaacagaa aacagaaagt aagacaaaaa accttggaat 300
273 tgttttagaa agccaaggtt ttcctgttca aa atg tct gtt gcc ttg tta tgg   353
274                                     Met Ser Val Ala Leu Leu Trp
```

RAW SEQUENCE LISTING DATE: 03/29/2002
PATENT APPLICATION: US/09/847,081B TIME: 10:28:49

Input Set : A:\pto_ms.txt
Output Set: N:\CRF3\03292002\I847081B.raw

```
     275                                    1               5
     277 gtt gtt tca cct tgt gaa gtc tca aat ggg aca gga ttc ttg gat tca   401
     278 Val Val Ser Pro Cys Glu Val Ser Asn Gly Thr Gly Phe Leu Asp Ser
     279          10                  15                  20
     281 gtc cgg gag gga aac cgg gtt ttt gat tcg tcg agg cat agg aat tta   449
     282 Val Arg Glu Gly Asn Arg Val Phe Asp Ser Ser Arg His Arg Asn Leu
     283      25                  30                  35
     285 gtg tgc aat gag aga aac aag aga ggt gtg aaa caa agg tgg aat ttt   497
     286 Val Cys Asn Glu Arg Asn Lys Arg Gly Val Lys Gln Arg Trp Asn Phe
     287  40                  45                  50                  55
     289 ggt tct gta agg tct gct atg gtg gct aca ccg gcg gga gaa atg gcg   545
     290 Gly Ser Val Arg Ser Ala Met Val Ala Thr Pro Ala Gly Glu Met Ala
     291                 60                  65                  70
     293 acg atg aca tca gaa cag atg gtt tat gat gtg gtt tta aaa caa gca   593
     294 Thr Met Thr Ser Glu Gln Met Val Tyr Asp Val Val Leu Lys Gln Ala
     295              75                  80                  85
     297 gct tta gtg aag agg cag ttg aga tct gct gat gat tta gaa gtg aag   641
     298 Ala Leu Val Lys Arg Gln Leu Arg Ser Ala Asp Asp Leu Glu Val Lys
     299          90                  95                  100
     301 ccg gag atc cct ctc ccc ggg aat ttg agc ttg ttg agt gaa gca tat   689
     302 Pro Glu Ile Pro Leu Pro Gly Asn Leu Ser Leu Leu Ser Glu Ala Tyr
     303     105                 110                 115
     305 gat agg tgt agt gaa gta tgt gca gag tat gca aag aca ttt tac tth   737
W--> 306 Asp Arg Cys Ser Glu Val Cys Ala Glu Tyr Ala Lys Thr Phe Tyr Xaa
     307 120                 125                 130                 135
     309 gga acc atg yta atg act cca gag aga aga agg gct att tgg gca ata   785
W--> 310 Gly Thr Met Xaa Met Thr Pro Glu Arg Arg Arg Ala Ile Trp Ala Ile
     311                 140                 145                 150
     313 tat gtg tgg tgc agg aga aca gat gaa ctt gtt gat ggc cca aac gca   833
     314 Tyr Val Trp Cys Arg Arg Thr Asp Glu Leu Val Asp Gly Pro Asn Ala
     315             155                 160                 165
     317 tca cat att aca ccc caa gcc tta gat agg tgg gaa gac cgg ctt gaa   881
     318 Ser His Ile Thr Pro Gln Ala Leu Asp Arg Trp Glu Asp Arg Leu Glu
     319         170                 175                 180
     321 gat gtt ttc agc ggg cga cca ttt gat atg ctc gat gct gct ttg tcc   929
     322 Asp Val Phe Ser Gly Arg Pro Phe Asp Met Leu Asp Ala Ala Leu Ser
     323     185                 190                 195
     325 gat act gtt tcc aag ttt cca gtt gat att cag ccg ttc aga gat atg   977
     326 Asp Thr Val Ser Lys Phe Pro Val Asp Ile Gln Pro Phe Arg Asp Met
     327 200                 205                 210                 215
     329 att gaa gga atg cgt atg gac ttg agg aag tca aga tat aga aac ttt  1025
     330 Ile Glu Gly Met Arg Met Asp Leu Arg Lys Ser Arg Tyr Arg Asn Phe
     331                 220                 225                 230
     333 gat gag ctt tac ctc tat tgt tat tac gtt gct ggt acg gtt ggg ttg  1073
     334 Asp Glu Leu Tyr Leu Tyr Cys Tyr Tyr Val Ala Gly Thr Val Gly Leu
     335             235                 240                 245
     337 atg agt gtt cca att atg ggt att gca cct gat tca aag gca aca aca  1121
     338 Met Ser Val Pro Ile Met Gly Ile Ala Pro Asp Ser Lys Ala Thr Thr
     339         250                 255                 260
```

Use of n and / or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to ensure a corresponding explanation is present in the <220> to <223> fields of each sequence using n or Xaa.

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 03/29/2002
PATENT APPLICATION: US/09/847,081B TIME: 10:28:50

Input Set : A:\pto_ms.txt
Output Set: N:\CRF3\03292002\I847081B.raw

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:3; N Pos. 51
Seq#:3; Xaa Pos. 135,139
Seq#:4; Xaa Pos. 135,139

VERIFICATION SUMMARY DATE: 03/29/2002
PATENT APPLICATION: **US/09/847,081B** TIME: 10:28:50

Input Set : **A:\pto_ms.txt**
Output Set: **N:\CRF3\03292002\I847081B.raw**

L:9 M:270 C: Current Application Number differs, Wrong Format
L:253 M:283 W: Missing Blank Line separator, <220> field identifier
L:257 M:283 W: Missing Blank Line separator, <220> field identifier
L:263 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
L:306 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:737
L:310 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:785
L:390 M:283 W: Missing Blank Line separator, <220> field identifier
L:420 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:128